Notice

Environmental Protection Act 1994

Environmental Evaluation

Notice to conduct or commission an environmental evaluation

This notice to conduct or commission an environmental evaluation is issued by the administering authority pursuant to section 326B of the Environmental Protection Act 1994*.*

Mount Isa City Council
23 West Street
MOUNT ISA QLD 4825

Your reference: STAT1426

Our reference: CA55977

23 December 2019

Take notice: that under the *Environmental Protection Act 1994* (the Act) a notice to conduct or commission an environmental investigation is issued to Mount Isa City Council (you) by the administering authority. The administering authority is the Chief Executive of the Department of Environment and Science (the department).

The notice to conduct or commission an environmental investigation is issued in respect of the waste disposal activities of Mount Isa City Council on land described as Lot 73 on SP265806 (formerly described as Lot 73 on CP892034 and includes the 'new' and 'old' landfill locations) (the premises).

A. Grounds

The notice to conduct or commission an environmental investigation is issued on the following grounds:

- Under section 326B of the Act, the department is satisfied on reasonable grounds that an activity, or proposed activity is causing, or is likely to cause, environmental harm.

The facts and circumstances forming the basis for these grounds are:

1. You are the holder of Environmental Authority EPPR00788713 (the EA) which authorises the following Environmentally Relevant Activities to be undertaken on Lot 73 CP892034 (the premises):
    a. ERA 60(1)(a): Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - less than 50,000 tonnes.
    b. ERA 60(2)(g): Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(b) - more than 100,000 tonnes but not more than 200,000 tonnes.
2. Lot 73 CP892034 has changed title description a number of times and is currently identified as Lot 73 SP265806.
3. You are the trustee of reserve land Lot 73 SP265806.
4. Condition WA4-1 of the EA states:

    The following waste streams must not be permitted to be placed at the landfill facility at any time:

Queensland Government

a. *liquid or semiliquid waste, other than:*

   i. *liquid or semiliquid waste which has been produced in the carrying out of the activity; and*

   ii. *liquid or semiliquid waste that is incidental to, and comingled with, the permitted waste streams;*

b. *hot ash;*

c. *material that is smouldering or aflame;*

d. *material containing a substance which is ignitable, corrosive, reactive or toxic material (other than materials containing a toxic substance from domestic premises) unless this material is to be deposited into a dedicated monocell with a written approval of the administering authority;*

e. *all radioactive wastes, unless otherwise approved under the Radiation Safety Act 1999 or approved contaminated soil;*

f. *an explosive; or*

g. *ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction.*

5. Condition WA4-1 was the same condition number and wording in the previous EA (issued 19 December 2014) as in the current version of the EA (issued 21 July 2016).
6. Waste tracking certificates indicate that the following liquid waste streams were received at the premises between 03 January 2014 and 06 October 2014.
   a. Acidic solutions or acids in solid form – 114,000 litres
   b. Basic solutions or bases in solid form – 10,000 litres
   c. Non-toxic salts – 17,000 litres and 3,940 kilograms
   d. Oil and water mixtures or emulsions, or hydrocarbons and water mixtures or emulsions – 289,800 litres and 5,780 kilograms
   e. Animal effluent and residues, including abattoir effluent, poultry and fish processing wastes – 22,700 litres
   f. Grease trap waste – 246,370 litres
   g. Sewage sludge and residues including nightsoil and septic tank sludge – 203,600 litres
   h. Tannery wastes, including leather dust, ash, sludges and flours– 102,300 litres
   i. Triethylamine catalysts for setting foundry sands – 42,700 kilograms
   j. Residues from industrial waste treatment/disposal operations – 514,720 litres
   k. Asbestos – 1,560 litres and 880 kilograms
7. You have advised that the practice of accepting liquid waste streams commenced in approximately 1985 and ceased in March 2015.
8. During this time, the liquid wastes were disposed in four unlined ponds located on previously interred waste.

9. Liquid wastes have greater potential to contaminate land and waters than non-liquid wastes, through run-off to surface waters or by infiltration through soil to sub-surface waters. Furthermore, if liquid waste percolates through other non-liquid waste at the site before run-off or infiltration, it can also be further contaminated with dissolved or suspended contaminants.

10. In a memorandum from AECOM to you dated 15 May 2018, it is concluded that:

    a. The groundwater bores are not located along fault lines or areas of contact between geological types, which represent the likely contaminant migration path;
    b. Sampling is not undertaken in accordance with the Departments sampling manual, increasing the possibility of cross contamination of samples;
    c. The suite of monitoring parameters is inadequate to detect impacts of leachate; and
    d. It is unknown if impacts to groundwater have occurred.

11. On 13 August 2019, the department received the excel spreadsheet "Central MICC_GW_Template_AECOM" which showed the results of groundwater sampling for January, April and July 2019 for all bores, including both the old and new landfills. The department noted that:

    a. Total recoverable hydrocarbons (TRH) in the C6-C10 Fraction minus BTEX (F1) (Results 30μg/L) and F2 (Results 200-320μg/L) and >C16-C34 (Results 560-780μg/L) fractions were found in all three sample rounds in Bore 7, which may be down hydraulic gradient of the former liquid waste pits;

    b. TRH in the >C16-C34 (Results 350-520μg/L) fractions were found in April 2019 and July 2019 sample rounds in Bore 11, which is located adjacent to and may be down hydraulic gradient of the closed landfill;

    c. Fluoride in excess of the ANZECC Water Quality Guidelines (2000) Stock Watering trigger limit of 2μg/L was detected in Bore 1 (Results 2.4-2.9μg/L, within the footprint of the operational landfill area), and Bore 8 (Results 3.4-3.7μg/L, north of and may be up hydraulic gradient of the closed landfill) in all three sampling rounds;

    d. Elevated total and dissolved manganese concentrations were detected in Bore 1 (Results 1.08-2.49μg/L) and Bore 7 (Results 1.79-2.68 μg/L) in all three sampling rounds, compared to the remaining bores sampled which reported concentrations of less than 0.5 μg/L;

    e. Elevated ammonia concentrations were detected in Bore 11 (Results 6.35-33.2μg/L) in April 2019 and July 2019 samples, compared to the remaining bores sampled which reported concentrations of less than 0.4 μg/L; and

    f. Escherichia coli (E.coli) concentrations were substantially elevated (Results ~82000 CFU/100mL) in Bore 11 in the April 2019 sample, compared to the remaining bores which reported concentrations of less than 7 CFU/100mL.

12. The landfill is of a valley-fill design which, by design, is prone to surface water ingress into the landfill and leachate seeps from the sides. The landfill is not lined, nor is there a final cap or intermediate cap on any part of the landfill surface. Furthermore, because a valley-fill landfill is located in a drainage line, extensive management is required to control surface run-off, water ingress into the landfill and potential plates of geotechnical weakness from the leachate flows within the landfill.

13. Environmental harm is defined in section 14 of the Act as follows:

(1) Environmental harm is any adverse effect, or potential adverse effect (whether temporary or permanent and of whatever magnitude, duration or frequency) on an environmental value, and include environmental nuisance.

(2) Environmental harm may be caused by and activity –

(a) whether the harm is a direct or indirect result of the activity; or

(b) whether the harm results from the activity alone or from the combined effects of the activity and other activities or factors.

14. Environmental value is defined in section 9 of the Act as follows:

(a) a quality or physical characteristic of the environment that is conducive to ecological health or public amenity or safety; or

(b) another quality of the environment identified and declared to be an environmental value under an environmental protection policy or regulation.

15. Under the *Environmental Protection Water and Wetlands Biodiversity) Policy 2019* (EPP Water), all Queensland waters have environmental values to be protected or enhanced (section 6) and water quality objectives (section 11).

16. Leichardt River Basin is not listed in Schedule 1 of the EPP Water so is protected under the environmental values and water quality guidelines as listed in sections 6 and 8 respectively of the EPP Water, including the *Australian and New Zealand guidelines for fresh and marine water quality 2018.*

17. The department considers that the activities conducted by you on the closed and current landfill premises (waste disposal and liquid waste disposal) are likely to cause environmental harm due to the potential for leachate to impact groundwater (as indicated by groundwater monitoring results) and surface water.

18. Given the facts and circumstances described above, the department is satisfied that it is reasonable to require you to conduct an environmental investigation relating to the waste disposal activities at the premises.

B. Requirements

The report on the environmental investigation must address the following relevant matters:

1. Provide geo-referenced map/s showing:
    a. the location of all waste disposal cells at the **premises**;
    b. the approximate age and quantity of the waste in each cell; and
    c. the expected waste stream/s in each cell.

2. Describe all current and historical landfilling method/s at the **premises**.

3. Prepare and undertake a Groundwater Monitoring Program which, at a minimum:
    a. Identifies the type, location and hydrology of all groundwater aquifers at the **premises.**
    b. Identifies groundwater elevations and infers flow direction/s and velocities for each aquifer.
    c. Identifies relevant environmental values in proximity to the **premises**.
    d. Requires the installation of any additional groundwater monitoring bores required to:
        i. Determine the extent of existing groundwater contamination caused by the landfill activity; and

ii. Establish the background water quality of each aquifer.

e. Provides for each groundwater bore on the **premises** to be monitored on a **monthly** basis for 24 consecutive months for the following parameters (water quality characteristics) at a minimum:
   i. pH;
   ii. Dissolved oxygen;
   iii. Total dissolved solids and/or electrical conductivity;
   iv. Major cations (calcium, magnesium, sodium, potassium); and
   v. Major anions (chloride, sulphate, alkalinity, fluoride)

f. Provides for each groundwater bore on the **premises** to be monitored on a **quarterly** basis for 8 consecutive quarters for the following parameters (potential contaminants of concern) at a minimum:
   i. National Environment Protection (Assessment of Site Contamination) Measure (NEPM) dissolved metal suite;
   ii. Lead (total);
   iii. Manganese (total);
   iv. Ammonia;
   v. Polycyclic Aromatic Hydrocarbons (including naphthalene);
   vi. Total Petroleum Hydrocarbons (NEPM fractions);
   vii. Benzene;
   viii. Toluene;
   ix. Ethylbenzene;
   x. Xylene;
   xi. Biochemical Oxygen Demand;
   xii. Nonylphenol;
   xiii. Nonylphenol ethoxylates; and
   xiv. Escherichia coli and Enterococci.

4. After 24 consecutive groundwater sampling events for water quality characteristics, and 8 consecutive quarterly sampling events for potential contaminants of concern have been completed in accordance with Requirement 3, assess impacts and potential impacts to groundwater. The assessment must include:
   a) Descriptive water quality statistics for each groundwater monitoring bore including date range, count, mean, minimum, median and 80th and 95th percentiles (the 5th and 20th percentiles for pH);
   b) Piper diagrams for all groundwater monitoring bores at the premises for major cations and anions for each month;
   c) Box plots for all groundwater monitoring bores at the premises for each potential contaminant of concern showing the minimum, the median, 20th and 80th percentiles, and the maximum.
   d) The identification of spatial trends in groundwater contaminants at the premises; and
   e) The identification of temporal trends in groundwater contaminants including time series plots for all groundwater monitoring bores for all contaminants.

5. The method for assessing groundwater quality must be consistent with the guideline: *Using monitoring data to assess groundwater quality and potential environmental impacts. Version 1.* Department of Science, Information Technology and Innovation (DSITI) 2017, Queensland Government, Brisbane or a later version.

6. All sampling must be undertaken by a **suitably qualified person** in accordance with the most recent version of the "Monitoring and Sampling Manual, Environmental Protection (Water) Policy 2009" prepared by Water Quality and Investigation, Department of Environment and Science.

7. All sampling analysis must be undertaken by a laboratory with the relevant National Association of Testing Authorities accreditation.

8. All sampling results interpretation must be undertaken by a **suitability qualified person**.

9. The final environmental report on the environmental investigation must include:
   a. the deliverables, outcomes and findings from all requirements of this investigation; and
   b. the methodology applied in conducting the requirements of this investigation, including any assumptions relied upon and their justification; and
   c. the raw data relied upon for the deliverables, outcomes and findings from all requirements of this investigation. Raw data must be provided in an electronic format (e.g. excel) suitable for review and interpretation by the department.

10. The final environmental report required by Requirement 9 must be submitted to the department by **31 March 2022**

Definitions

Suitably Qualified Person – as defined in Chapter 12, Part 3 of the *Environmental Protection Act 1994.*

The environmental report must be submitted to the department on or before: **31 March 2022.**

The report can be submitted to the department at:

Department of Environment and Science

PO Box 5391

TOWNSVILLE QLD 4810

and via email at: estownsville@des.qld.gov.au

As the recipient of this notice, you are also required to provide a statutory declaration in the form attached, to accompany the environmental report submitted to the department.

The suitably qualified person who prepares the environmental report must also provide a statutory declaration in the form attached to the environmental report submitted to the department.

Copies of the template statutory declarations can also be accessed from the Queensland Government website at www.qld.gov.au, using the publication number as a search term:

- Statutory declaration environmental evaluation for recipient (ESR/2016/1997)
- Statutory declaration for suitably qualified person (ESR/2016/2266)

Take notice:

1. The requirements of the notice to conduct or commission an environmental investigation take effect immediately upon service of this notice;

2. This notice remains in force until further notice from the department; and
3. You are responsible for meeting the costs of conducting or commissioning the environmental evaluation, preparing the environmental report and providing any further information as requested by the department.

C. Reviews and appeals

The provisions regarding reviews of decisions and appeals are found in sections 519 to 539 of the Act.

A person who is dissatisfied with certain decisions of the department, may be able to apply to have the department review that original decision.

Generally, a request to have a decision reviewed must:

- be made within 10 business days of the decision being notified to the person;
- be supported by enough information to enable the department to decide the application for review; and
- be made using the application form, Application for review of original decision (ESR/2015/1573) available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2015/1573) as a search term.

Where an application has been made for a decision to be reviewed, the applicant may also apply to the relevant court for a stay of the decision to secure the effectiveness of the review.

Once the original decision has been reviewed, a person who is dissatisfied with the review decision may be able to appeal against that decision to the relevant court within 22 business days after receiving notice of the review decision.

A person whose interests are or would be adversely affected by a decision of the department may also be able to request a statement of reasons for a decision or a statutory order review under the *Judicial Review Act 1991*.

For further information about reviews and appeals see the information sheet, internal review and appeals (ESR/2015/1742) available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2015/1742) as a search term.

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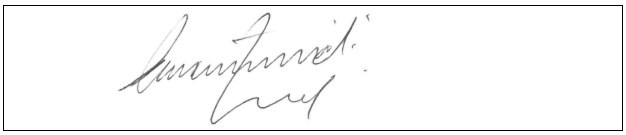
You may have other legal rights or obligations and should seek your own legal advice.

D. Penalty

Failure to comply with a notice to conduct or commission an environmental evaluation is an offence.

- The maximum penalty for an individual is 300 penalty units, totalling $40,035.00.
- The maximum penalty for a corporation is 1500 penalty units, totalling $200,175.00.

Should you have any queries in relation to this notice, please contact Mel North of the department on telephone number 4722 5263 or melissa.north@des.qld.gov.au.



Signature

23/12/2019

Date

William Inonda

Manager (Compliance)

Delegate of the Chief Executive

Department of Environment and Science

Environmental Protection Act 1994

Enquiries:

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